

Remarks/Argument

Claim Summary

By this Amendment, claim 6 has been revised, and non-elected claims 1-5 have been canceled without prejudice or disclaimer of their subject matter.

Claims 6-25 are now pending in the application.

Specification

By this Amendment, a new Abstract of the Disclosure is presented to correct the informalities identified by the Examiner.

Water Content of Cleaning Solution

By this Amendment, the abstract, specification and claims 6 and 19 have been revised to correct an error in the water content of the cleaning solution. Specifically, the water content has been changed from “about 50%” to “about 20-50%.” Support for this revision can be found at page 10, lines 19-22, of the specification. No new matter has been added.

35 U.S.C. ¶103

Claims 6-25 were rejected under 35 U.S.C. ¶103 as being unpatentable over Torii et al. (US 5972862) in combination with Tan (6810887) and Hightower et al. (US 3033710), for the reasons stated at pages 3-6 of the Office Action. As discussed below, Applicants respectfully traverse this rejection.

In the Office Action, the Examiner states:

“Torii et al. disclose a method for cleaning ceramic parts on which plasma reaction by products are adsorbed.”

In fact, however, Torii et al. does not disclose the cleaning of ceramic parts. Rather, Torri et al. is directed to the cleaning of metallic layer sidewalls and/or via holes formed over a semiconductor substrate. See, e.g., col. 1, lines

11-24; col. 2, lines 60-64; and col. 3, line 56, through col. 4, line 8.

As such, Torii et al. does not teach dipping ceramic parts of semiconductor fabrication equipment into a cleaning solution as is apparently suggested by the Examiner.

In the Office Action, the Examiner further states:

"It would have been obvious for one skilled in the art to use the ultrasonic and the heating step taught by Tan in the Torii et al. process to remove any moisture from the parts and to improve the cleaning process."

Applicants again respectfully point out that Torii et al. is directed to the clean of a semiconductor device substrate during fabrication of the semiconductor device. In contrast, Tan teaches cleaning of a ceramic dome where the cleaning process includes heat treatment to about 700-800°C for about 6-12 hours. See col. 12, lines 26-27. Applicants submit it to be manifest that one skilled in the art (who is always concerned with thermal budgets) would not apply the high-temperature heat treatment process of Tan to the semiconductor device substrate cleaning process of Torii et al. Clearly, such high-temperature heat treatment could damage or alter the physical characteristics of the semiconductor device substrate.

For similar reasons, Applicants respectfully contend that one of ordinary skill would not utilize the ultrasonic treatments of Tan and Hightower to the semiconductor device substrate of Torii et al. More specifically, one of ordinary skill would consider these ultrasonic treatments as being inappropriate for the delicate processes associated with fabricating a semiconductor device substrate.

For at least the reasons stated above, Applicants respectfully contend that claims 6-25 would not have been obvious to one of ordinary skill in the art in view of the cited references, taken individually or in combination.

Conclusion

No other issues remaining, reconsideration and favorable action upon the claims 6-25 now pending in the application are requested.

Respectfully submitted,

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